Preliminary

LL-503SGC2E-001

DATA SHEET

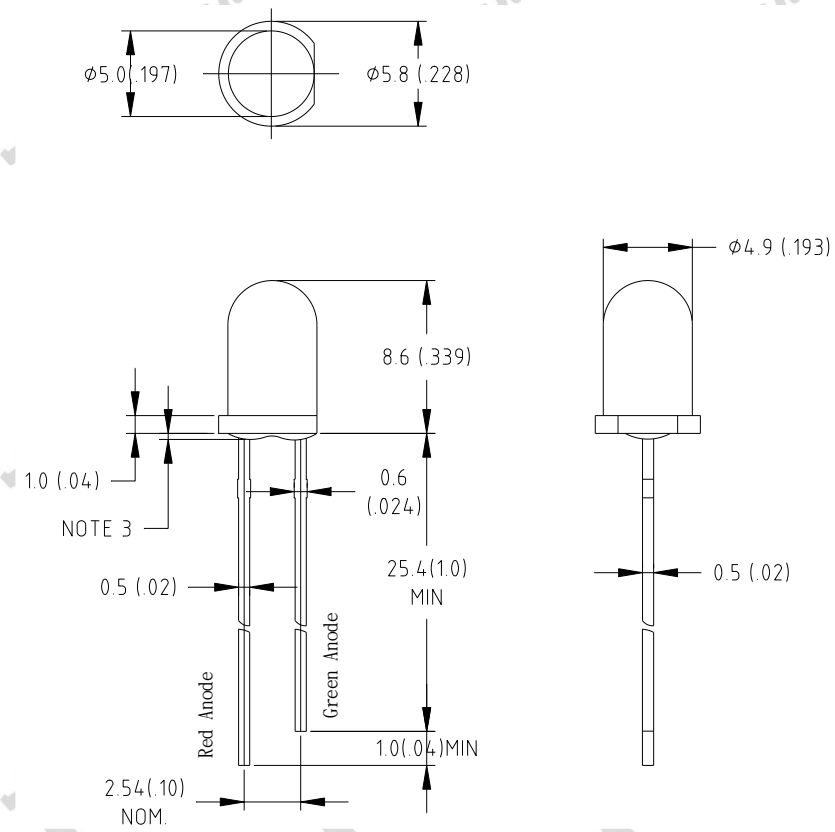
RoHS Compliant

QC:王士光　　ENG:鄭文斌　　Prepared By: 楊銀花

Features:

- Standard 5mm diameter package
- General purpose leads
- Pb-free

Package Dimensions:



Part NO.	Chip Material		Lens Color	Emission Color
LL-503SGC2E-001	Red	Green	Water Clear	Red & Green
	AlGaAs	GaP		

Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm (.010”) unless otherwise noted.
3. Protruded resin under flange is 1.0mm (.04”) max.
4. Lead spacing is measured where the leads emerge from the package.
5. Specifications are subject to change without notice.

Absolute Maximum Ratings at Ta=25℃

Parameter	MAX		Unit
Power Dissipation	Red	85	mW
	Green	130	
Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	100		mA
Continuous Forward Current	Red	35	mA
	Green	50	
Derating Linear From 50℃	0.4		mA/℃
Reverse Voltage	5		V
Operating Temperature Range	-30℃ to +80℃		
Storage Temperature Range	-40℃ to +100℃		
Lead Soldering Temperature [4mm(.157") From Body]	280℃ for 5 Seconds		

Electrical Optical Characteristics at Ta=25℃

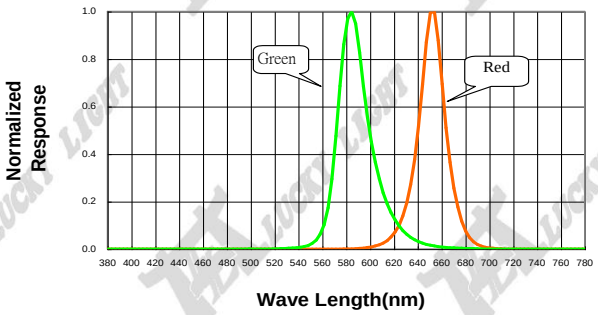
Parameter	Symbol	Emitting Color	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	I_V	Green	150	380		mcd	I_F=20mA Note 1
		Red	190	400			
Viewing Angle	$2\theta_{1/2}$	Green	10	15	20	Deg	Note 2
		Red	10	15	20		
Peak Emission Wavelength	λp	Green	563	568	573	nm	I_F=20mA
		Red	655	660	665		
Dominant Wavelength	λd	Green	565	570	575	nm	I_F=20mA Note 3
		Red	640	645	650		
Spectral Line Half-Width	△λ	Green	25	30	35	nm	I_F=20mA
		Red	20	25	30		
Forward Voltage	V_F	Green	1.7	2.2	2.6	V	I_F=20mA
		Red	1.5	1.85	2.4		
Reverse Current	I_R	Green			10	μA	V_R=5V Note 4
		Red					

Notes:

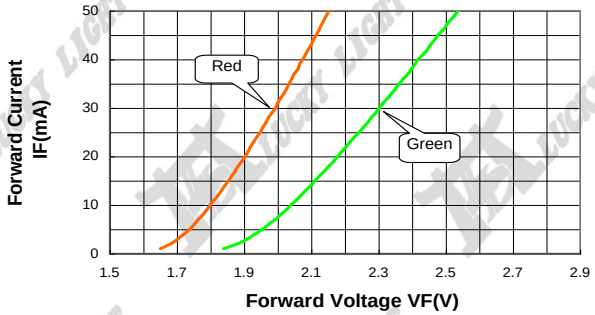
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2. $\theta_{1/2}$ is the off-axis angle at which the luminous intensity is half the axial luminous intensity.
3. The dominant wavelength (λd) is derived from the CIE chromaticity diagram and represents the single wavelength which defines the color of the device.
4. Reverse current (I_R) cannot be measure of this type LED.
5. Forward voltage measurement allowance is ±0.1V
6. Luminous Intensity Measurement Allowance is ± 10%

Typical Electrical / Optical Characteristics Curves
(25°C Ambient Temperature Unless Otherwise Noted)

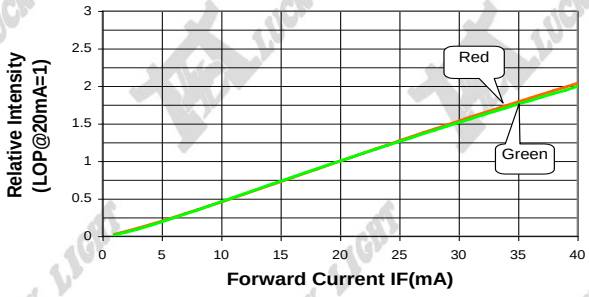
Spectral Radiance Green Peak @ 568nm
Red Peak @ 660nm



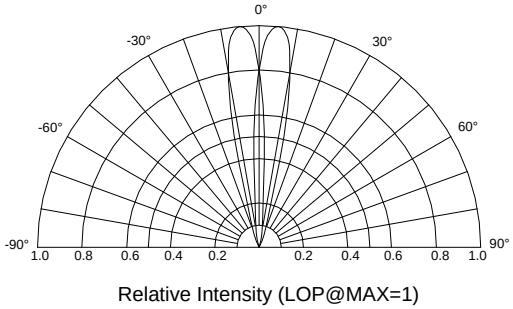
Forward Current
vs Forward Voltage



Relative Luminous Intensity
vs Forward Current



Beam Pattern



Relative Intensity (LOP@MAX=1)

Forward Cureent
Derating Curve